

## CLAIMS

What I claim as my invention is

1. Any array of molecules created on surface of a substrate comprising the said substrate contains fenestrations larger than 1 micrometer in dimensions.
2. An array of claim 1, comprising of array elements, the said array elements deposited on the surface of the substrate, the surface of the substrate being made discontinuous by the fenestrations in the substrate.
3. An array of claim 1, comprising a substrate that contains more than 1, but less than 100 fenestrations.
4. An array of claim 1, comprising a substrate that contains 100 or more fenestrations.
5. Any method to fabricate an array of claim 1.
6. A method to fabricate an array of claim 1, comprising
  - a. Deposition of array elements on the substrate, and
  - b. Removal of substrate between array elements to create fenestrations.
7. A method to fabricate an array of claim 1, comprising
  - a. Removal of substrate at defined locations to create fenestrations,
  - b. Deposition of array elements on the substrate between the fenestrations.
8. A method to fabricate an array of claim 1, comprising
  - a. Creating rows of array elements on linear substrates, and
  - b. Joining together said substrates at both edges.
9. An array of claim 1 comprising array elements composed of DNA, RNA or proteins or a surface modification.
10. Any array of claim 1 comprising a substrate with less than 0.5 mm thickness.

11. Any composite array of molecules comprising two or more of arrays of claim 1 stacked together.
12. A composite array of claim 11, comprising different arrays of claim 1 are not in contact with each other.
13. A composite array of claim 11, in which the at least one of the array elements present on each of the arrays of claim 1 is not present on any other arrays of claim 1.
14. The use of an array of claim 1 for detection of analytes present in a sample.
15. Claim 14 where the analytes to be detected are DNA, RNA or proteins.
16. Any array of molecules on surface of a substrate comprising the said substrate has a thickness of less than 0.5 mm.
17. Any array of claim 16, comprising a substrate with less than 100 micron thickness.
18. Any array of claim 16, comprising the substrate is glass.
19. Any method of sample analysis using a composite array of claim 11.
20. Any method of sample analysis using a composite array of claim 11 comprising the array elements are imaged using a confocal optical device.